Claims

1. Method for producing a construction material containing a binder and a mineralizer on a plant basis (PB), characterized in that
- the binder and the mineralizer are blended in defined application-oriented resp. -dependent proportions to obtain a mixture M1,
- the mineralizer is composed of a defined mixture M2 of calcium carbonate $CaCO_3$ and magnesium carbonate $MgCO_3$ that is prepared in an application-oriented resp. -dependent manner,
- the mixture {PB + M1} is mixed into a quantity of mixing water that is defined according to the desired consistency K_i.

2. Method according to claim 1, characterized in that the preparation of the mixture {PB + M1} takes place in a single process step, the mineralizer being previously admixed to the binder directly at the binder plant according to determined specifications.

3. Method according to claim 1 or 2, characterized in that the plant basis PB is advantageously composed of miscantus (China reed), hemp shives, hemp fibers, softwood, sugar cane, straw, switchgrass (panicum virgatum), Italian ryegrass, reed, individually or in different combinations, these vegetable raw materials being comminuted according to predetermined specifications.

4. Method according to any one of claims 1 to 3, characterized in that a fungicidal preparation is admixed to

the mixing water, preferably by the addition of approx. 2/3 liters of sodium hydroxide for 1,000 liters of mixing water.

5. Method according to any one of claims 1 to 4, characterized in that the weight proportions of the components constituting the mixture M1 are comprised between approx. 50 % and approx. 90 %, preferably between 6/10 and 4/5, for the binder, and between approx. 10 % and approx. 50 %, preferably between 1/5 and 4/10, for the mineralizer.

6. Method according to any one of claims 1 to 5, characterized in that the weight proportions of the components constituting the mixture M2 are comprised between approx. 60 % and approx. 95 %, preferably between 2/3 and 9/10, for the $CaCO_3$, and between approx. 5 % and approx. 40 %, preferably between 1/10 and 1/3, for the $MgCO_3$.

7. Method according to any one of claims 1 to 6, characterized in that for 1 m^3 of PB, preferably miscantus,
- M1 is composed of 75 kg of mineralizer according to M2 and of 225 kg of Portland cement (weight proportions 25 % to 75 %), and
- M2 of 60 kg of calcium carbonate and of 15 kg of magnesium carbonate (weight proportions 80 % to 20 %),
and in that the total of the dry elements {PB + M1} is processed with approx. 300 liters of mixing water.

8. Construction material on a plant basis (PB), containing a binder and a mineralizer, characterized in that
- the mineralizer is composed of a defined mixture M2 of calcium carbonate $CaCO_3$ and magnesium carbonate $MgCO_3$ in defined, application-oriented resp. -dependent proportions,

the construction material preferably being produced according to the method according to one of claims 1 to 7.

9. Structural element comprising a construction material according to claim 8.

10. Method according to any one of claims 1 to 7, characterized in that a mixture M3 of additional application-specific materials is admixed to the mixture M1 or M2 or {PB + M1} in application-oriented resp. -dependent proportions.

11. Method according to claim 10, characterized in that the mixture M3 consists of gypsum, preferably with starch added.

12. Method according to claim 10, characterized in that M3 consists of a flow agent and the mixture {PB + M1 + M3} is extruded.

13. Method according to claim 10 or 11, characterized in that for 1 m^3 of comminuted PB, preferably a mixture of miscantus and softwood with 85 % and 15 % volumetric content, respectively,

- M1 is composed of 60 kg of mineralizer according to M2 and of 100 kg of Portland cement (weight proportions 37.50 % to 62.50 %), and
- M2 of 42 kg of calcium carbonate and of 18 kg of magnesium carbonate (weight proportions 70 % to 30 %), and
- M3 consists of 200 kg of gypsum, and in that the mixture of the dry elements {PB + M1 + M3} is mixed with approx. 300 liters of mixing water.

14. Construction material according to claim 8, characterized in that it contains a mixture M3 of additional application-specific materials in defined, application-oriented resp. -dependent proportions and is preferably produced according to the method according to one of claims 10 to 12.

15. Structural element or object comprising a construction material according to claim 14.

16. Structural element according to claim 9, characterized in that it forms a sound-insulating element (1) and is provided with sound-insulating fins (2) for increasing the sound-absorbing surface area.

17. Sound-insulating structural element according to claim 16, characterized in that it is in the form of a panel.

18. Sound-insulating structural element according to claim 16 or 17, characterized in that it is built up of two layers, a supporting layer (3) with a preponderantly static function being provided with an absorber layer (4) for sound absorption.

19. Sound-insulating structural element according to claim 18, characterized in that it has a thickness (h) of approx. 25 cm, the supporting layer (3) with a density of approx. 1250 kg/m^3 having a thickness (g) of approx. 10 cm and the absorber layer (4) with a density of approx. 500 kg/m^3 being built up of fins (2) having a height (e) of approx. 10 cm, a width (d) of approx. 10 cm at the fin base, a width (a) of approx. 6 cm at the fin head and a distance (c) between the fins of approx. 3 cm at the fin base, and of a layer beneath

the fins of a thickness (f) of approx. 5 cm, and in that the total weight of the structural element (1), related to the projected surface area, is approx. 205 kg/m^2.

20. Structural element according to claim 9, characterized in that it forms a cuboidal slope reinforcement block (5), in that a tenon (8) and a groove (9) are provided for the form-fitting juxtaposition of several slope reinforcement blocks (5), and in that furthermore a recess (7) is provided on the side facing the soil which is capable of being filled up by earth (12).

21. Slope reinforcement block according to claim 20, characterized in that sound-absorbing fins (2) are provided on the side of the slope reinforcement block (6) opposite the soil (12).

22. Slope reinforcement wall composed of slope reinforcement blocks according to claim 20 or 21, characterized in that several slope reinforcement blocks (5, 6) form a slope reinforcement wall (10) by form-fitting interconnection thereof, and in that the latter is inclined by the angle á with respect to the perpendicular, and in that a foundation (11) for absorbing the vertical forces as well as geo fleece mats (13) and tension bands (14) for absorbing the horizontal forces from the slope reinforcement wall (10) are provided.

23. Slope reinforcement wall according to claim 22, characterized in that the angle á is 10°.

24. Structural element according to claim 9, characterized in that it is pressed to form a perforated building brick.

25. Structural element according to claim 9, characterized in that hemp ropes of a diameter of approx. 12 mm are arranged at intervals of approx. 10 cm, in that hemp ropes of a diameter of approx. 8 mm are provided at intervals of approx. 30 cm, and in that the structural elements have a length of approx. 3.5 m and are applicable as ceiling elements.

26. Structural element according to claim 8, characterized in that a timber framing is provided which fulfills the static function of the structural element, and in that the plant-based construction material fills up the timber framing two-dimensionally and fulfills a thermal insulation and noise protection function.

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